

ONKYO® SERVICE MANUAL

COMPACT DISC PLAYER MODEL C-721



Black and Silver models

BUP, UP, UPT	230V AC, 50Hz
UW	120/220V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

SPECIFICATIONS

Signal readout system:	Optical non-contact
Reading rotation:	About 500 – 200 r.p.m. (constant linear velocity)
Linear velocity:	1.2 – 1.4 m/s
Error correction system:	Cross Interleave Reed Solomon code
D/A converter:	1 BIT D/A converter
Sampling frequency:	352.8 kHz (Eight-times oversampling)
Number of channels:	2 (stereo)
Frequency response:	5 Hz – 20 kHz
Total harmonic distortion:	0.005% (at 1 kHz)
Dynamic range:	96 dB
Signal to noise ratio:	100 dB
Channel separation:	90 dB (at 1 kHz)
Wow and Flutter:	Below threshold of measurability
Output level:	2 volts r.m.s.
Power consumption:	12 watts
Power supply rating:	European model: AC 230V, 50Hz Worldwide model: AC 120V and 220V switchable 50/60Hz
Dimensions (W x H x D):	275 x 79 x 308 mm 10-7/8" x 3-1/8" x 12-1/8"
Weight:	3.1kg, 6.8lbs.

Specifications and external appearance are subject to change without notice because of product improvements.

ONKYO
AUDIO COMPONENTS

TABLE OF CONTENTS

Specifications.....	1
Service procedures.....	2
Caution on replacement of optical pickup.....	2
Protection of eyes from laser beam during servicing.....	3
Laser warning labels.....	3
Exploded view.....	4
Parts list.....	5
Mechanism-exploded view.....	6
Removement of tray ass'y.....	7
Microprocessor connection diagram.....	8
Microprocessor terminal description.....	9
IC block diagrams and descriptions.....	10
Block diagram.....	14
Adjustment procedures.....	15
Printed circuit board view from bottom side.....	17
Schematic diagram.....	19
Printed circuit board-parts list.....	21
Fluorescent tube.....	22
Schematic diagram mechanism block	23
Packing view	24

SERVICE PROCEDURES

1. Safety-check out

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Connect the insulating-resistance tester between the plug of power supply cord and chassis.

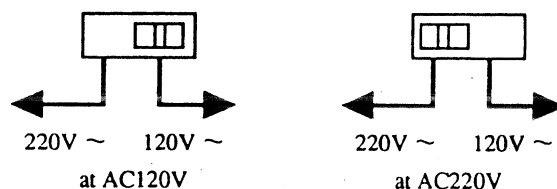
Specifications: More than 10Mohm at 500V.

2. Voltage Selector (Back panel)

Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in user's area before turning the power switch on.

Voltage is changed by sliding the groove in the switch with a screw driver to the right or left.

Confirm that the switch has been moved all the way to the right or left before turning the power switch on.



CAUTION ON REPLACEMENT OF OPTICAL PICKUP

The laser diode in the optical pickup block is so sensitive to static electricity, surge current and etc, that the components are liable to be broken down or its reliability remarkably deteriorated.

During repair, carefully take the following precautions. (The following precautions are included in the service parts.)

PRECAUTIONS

1. Ground for the work-desk.

Place a conductive sheet such as a sheet of copper (with impedance lower than 10MΩ) on the work-desk and place the set on the conductive sheet so that the chassis.

2. Grounding for the test equipment and tools.

Test equipments and toolings should be grounded in order that their ground level is the same the ground of the power source.

3. Grounding for the human body.

Be sure to put on a wrist-strap for grounding whose other end is grounded.

Be particularly careful when the workers wear synthetic fiber clothes, or air is dry.

4. Select a soldering iron that permits no leakage and have the tip of the iron well-grounded.

5. Do not check the laser diode terminals with the probe of a circuit tester or oscilloscope.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

Laser Diode Properties

- Material: GaAs/GaAlAs
- Wavelength: 780nm
- Emission Duration: continuous
- Laser output: max. 0.5mW*

*This output is the value measured at a distance about 1.8mm from the objective lens surface on the Optical Pick-up Block.

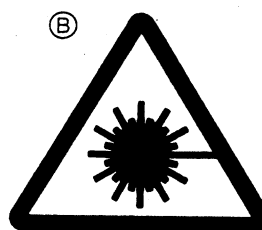
LASER WARNING LABELS

The label shown below are affixed.

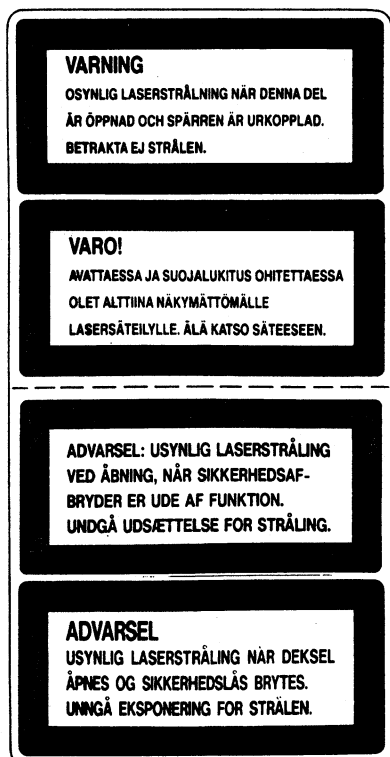
1. Warning label

This label is located on the chassis.

- (A) **DANGER** —INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.
- CAUTION** —HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED
- ATTENTION** —RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ECLANCHÉMENT DE SECURITE ANNULÉ.



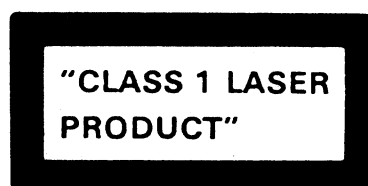
(C)



- (A) : Danger label
- (C) : Only 230V model except germany model

2. Class 1 label

This label is located on the left side of top cover.



LUOKAN 1 LASERLAITE

KLASS 1 LASER APPARAT

ADVARSEL

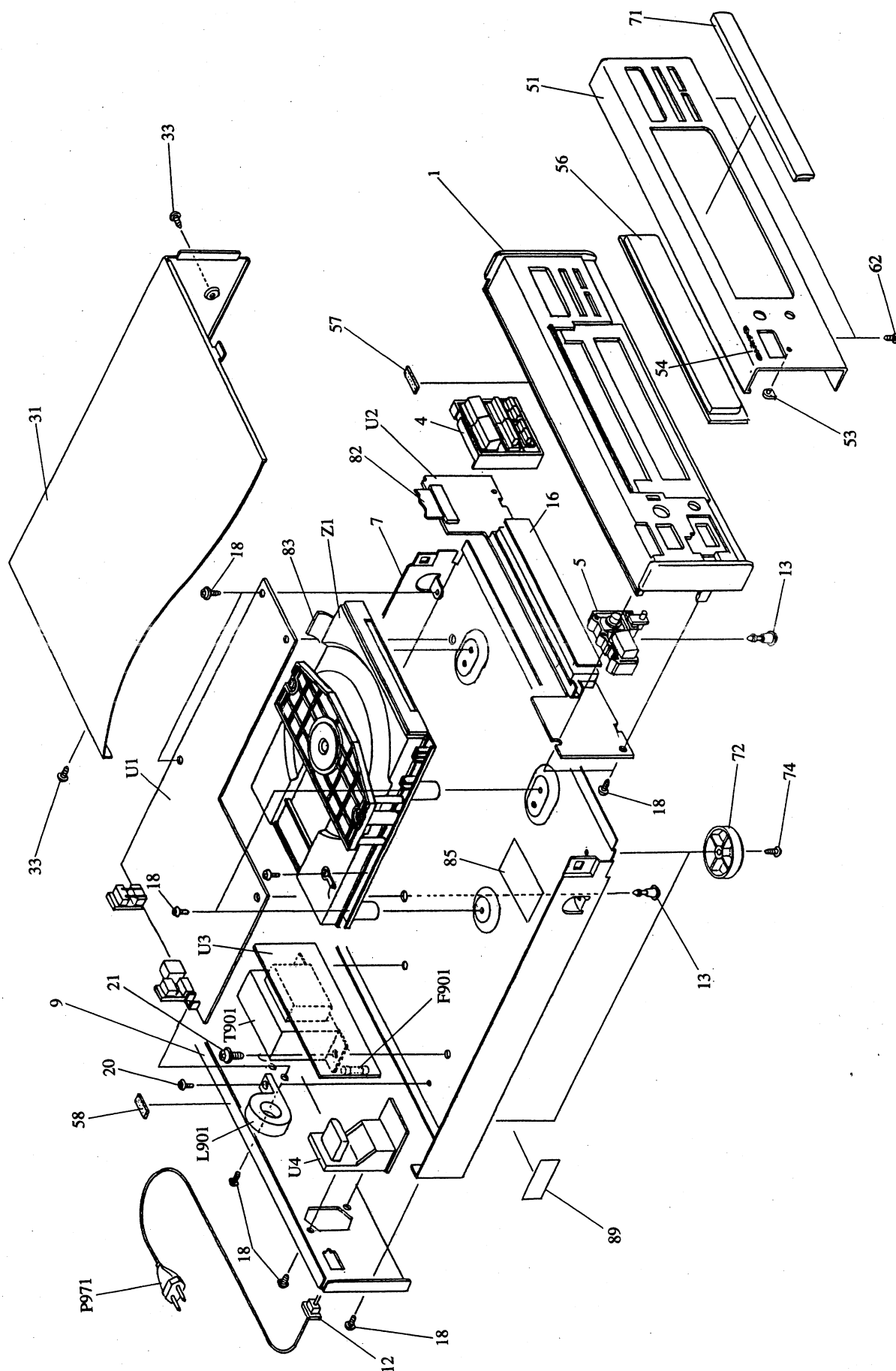
Denna mærkning er anbragt på apparatets højre side og indikerer, at apparatet arbejder med laserstråler af klasse 1, hvilket betyder, at der anvendes laserstråler af svageste klasse, og at man ikke på apparatets yderside kan blive udsat for utilsigtede kraftig stråling.

APPARATET BØR KUN ÅBNES AF FAGFOLK MED SÆRLIGT KENDSKAB TIL APPARATER MED LASERSTRÅLERI

Indvendigt i apparatet er anbragt den her gengivne advarselmærkning, som advarer imod at foretage sådanne indgreb i apparatet, at man kan komme til at udsætte sig for laserstråling.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINTULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTÖMÄLLE LASERSÄTEILYLLE.

EXPLODED VIEW

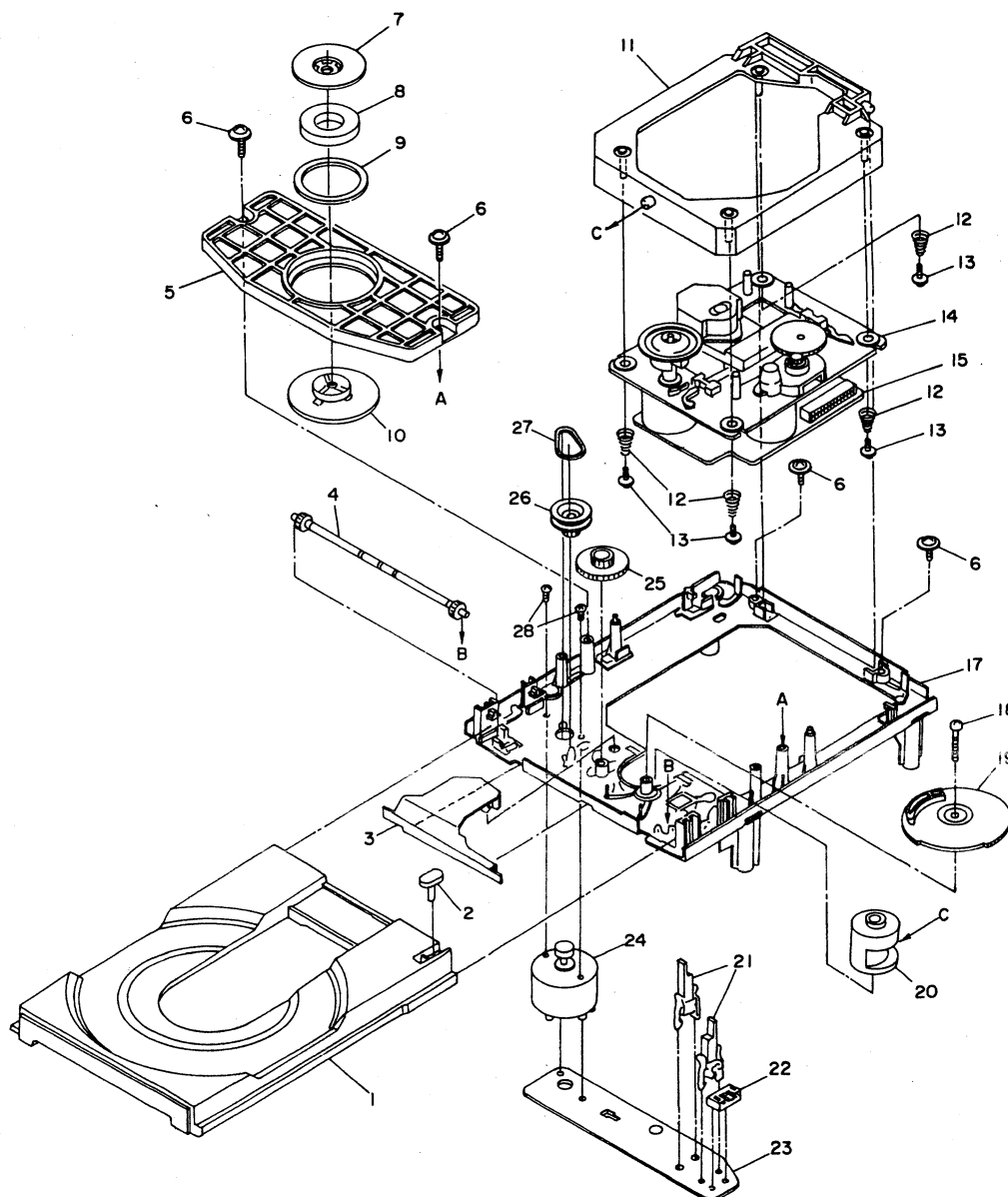


PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
1	27110782C	FRONT BRACKET <S>	F901	△ 252075 or	2.5A-SE-EAK, FUSE or
4	27110781C	FRONT BRACKET 		252075CC	2.5A-SE-EAK, FUSE
5	28324853B	KNOB(OPEN) <S>	L901	230910	ESD-R-25DB, CORE
	28324852A	KNOB(OPEN) 	P971	△ 253148 or	AS-CEE, AC CORD or
	28325210	KNOB(POWER)AS <S>		253164	AS-CEE, AC CORD
7	28324880	KNOB(POWER)AS 	T901	△ 2300951	NPT-1185P, POWER TRANSFORMER <P>
	27100273	CHASSIS		2300952	NPT-1185DG, POWER TRANSFORMER <W,T>
9	27122218A	REAR PANEL <P,T>	U1	1H312525-3A	NAAR-4825-3A, Main Circuit PC Board <except W>
	27122219A	REAR PANEL <W>		1H312525-3B	NAAR-4825-3B, Main Circuit PC Board <W>
12	△ 27300750	#2271, CORD BSHNG	U2	1H312530-3	NADIS-4830-3, Display Circuit PC Board
13	27190428A	KGLS-10RF, HOLDER	U3	1H312526-3A	NAPS-4826-3A, Power Transformer PC Board
16	28133314	BACK PLATE <S>	U4	1H312528-3	NAPS-4828-3, AC Outlet Terminal PC Board
	28133313	BACK PLATE 	U6	1H312529-3	NASW-4829-3, Voltage Selector PC Board <W>
18	838130088	3TTB+8B, SCREW	Z1	24800009CY	NCD-130S, MECHANISM AS
20	831430088	3TTW+8B(BC), SCREW			
21	830440069	4TTC+6C(BC), SCREW			
31	28184545AZ	TOP COVER <S>			
	28184544AZ	TOP COVER 			
33	838230088	3TTB+8B(ND), SCREW <S>			
	838430088	3TTB+8B(BC), SCREW 			
51	27211826	FRONT PANEL <S>			
	27211825	FRONT PANEL 			
53	28198797	FACET(ST-7)			
54	28135199Y	BADGE			
56	28191664	CLEAR PLT			
57	28140555-1	CUSHION			
58	28141284	CUSHION			
62	838430068	3TTB+6B(BC), SCREW			
71	28148320	DOOR <S>			
	28148347	DOOR 			
72	27175294Y	LEG AS			
74	838130088	3TTB+8B, SCREW			
82	2047301512	NCFC7-301512, FFC			
83	2047221012	NCFC7-221012, FFC			
85	29361961	LABEL(ALL3)			
89	29360687	CLASS 1, LABEL			

NOTE: <S> Silver model only
 Black model only
 <W> Worldwide model only
 <P> European model only
 <T> Asian model only

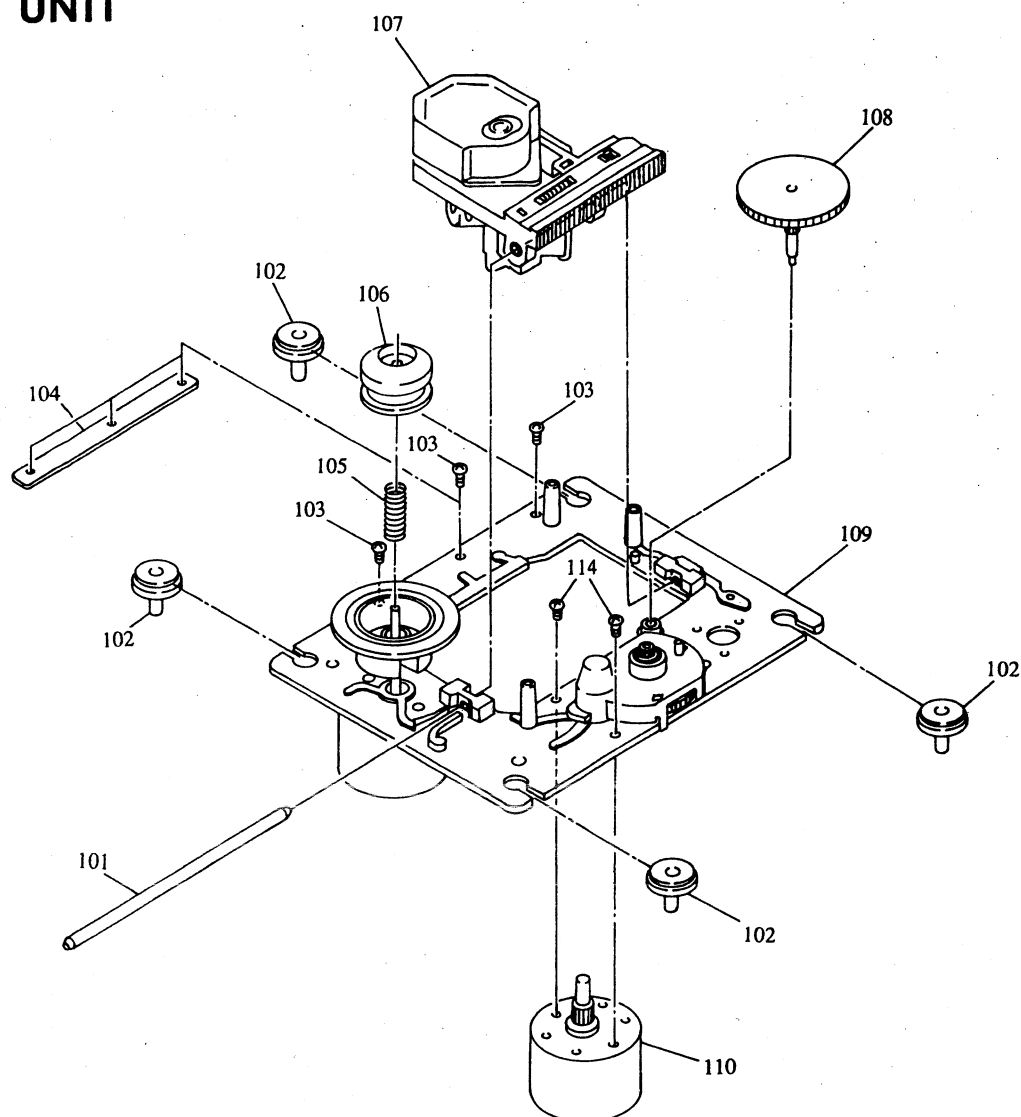
MECHANISM-EXPLODED VIEW



PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
1	24840060	Tray	21	24840064	Leafswitch
2		Stopper	22	25055369	NPLG-5P352,Plug
3	24822014	Gear cover	23	24840066	Loading motor pc board
4	24810020	Tray gear	24	24840067	Loading motor
5	24840061	Chucking plate	25	24810022	Middle gear
6		2.6TTW+7B,Self-tapping screw	26	24810025	Loading
7	24830003	Chucking yoke	27	24816008	Belt
8	24832004	Magnet	28		2.6B+2.5F,Screw
9	24836013	Damper	101	24828006	Sled shaft
10	24810024	Chucking P	102	24836014	Insulator
11	24802012	Sub chassis	103	24840068	2×5,Special screw
12	24820023	Spring	104	24822015	Plate S
13	24840062	Screw with washer	105	24820024	Spring
14		KSM-2401,Pickup drive unit	106	24824003	Center ring
15	24840075	CD servo pc board ass'y	107	24110011	KSS-240A,Optical pickup
17	24802013	Main chassis	108	24810023	Wheel
18		2.6TTW+16B,Self-tapping screw	109	24802014	Chassis
19	24810021	Drive gear	110	24804012	Motor gear ass'y
20	24840063	Control cam	114	82112003	2P+3FN,Pan head screw

DRIVE UNIT



REMOVEMENT OF TRAY ASS'Y

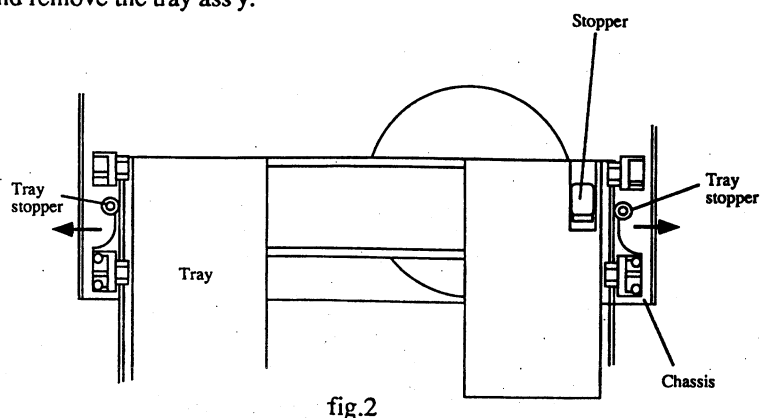
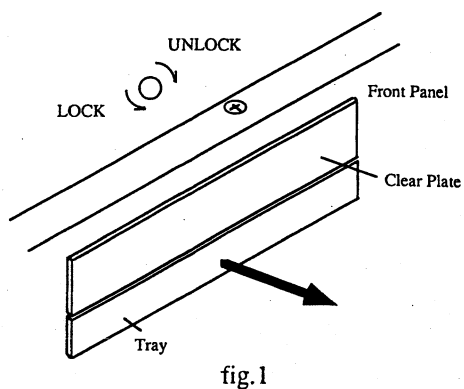
Remove the top cover.

Turn the locked screw to the clockwise to release the lock of gear.(Refer fig.1)

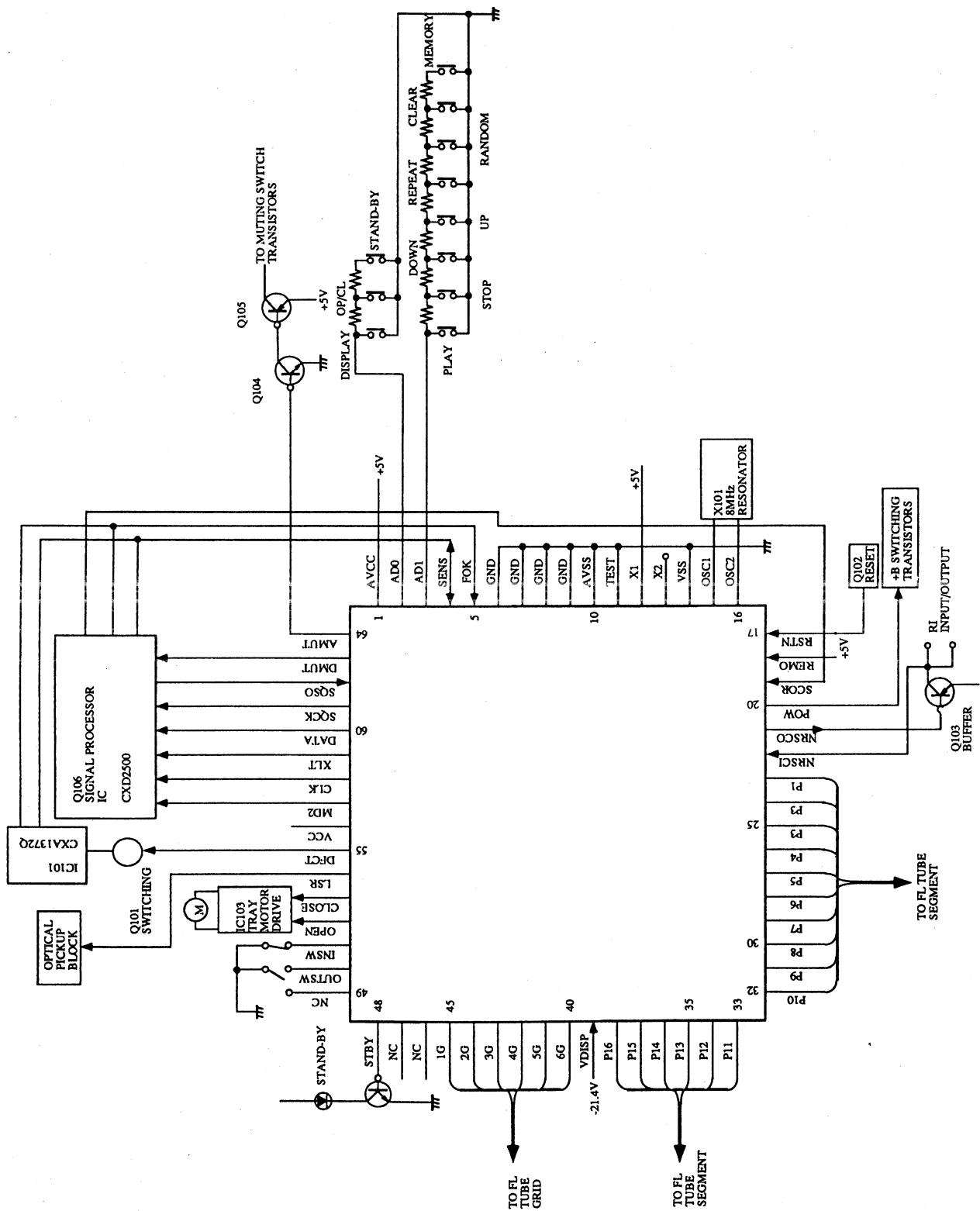
Pull out the tray ass'y.

Remove the stopper.(Refer fig.2)

Press the tray stopper to the arrow mark direction and remove the tray ass'y.



MICROPROCESSOR CONNECTION DIAGRAM

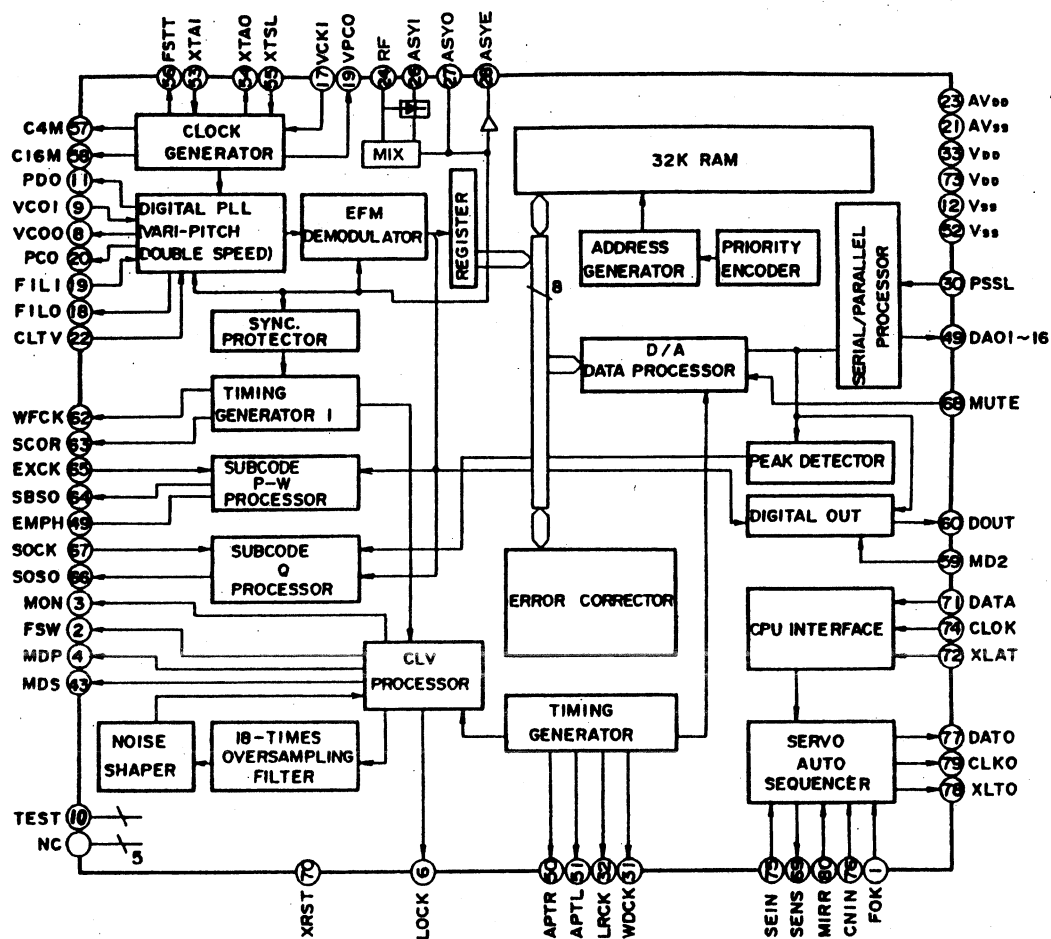


MICROPROCESSOR TERMINAL DESCRIPTION

PIN.NO.	SYMBOL	I/O	DESCRIPTION	PIN.NO.	SYMBOL	I/O	DESCRIPTION
1	AVCC		Power supply terminal. 5V	33	P11	O	FL tube segment output.
2	AD0	I	Key input terminal.	34	P12	O	FL tube segment output.
3	AD1	I	Key input terminal.	35	P13	O	FL tube segment output.
4	SENS	I	Sense input from signal processor.	36	P14	O	FL tube segment output.
5	FOK	I	Focus OK input.	37	P15	O	FL tube segment output.
6	GND		Ground terminal.	38	P16	O	FL tube segment output.
7	GND		Ground terminal.	39	VDISP	I	Negative power supply terminal for FL tube.
8	GND		Ground terminal.	40	6G	O	FL tube grid output.
9	GND		Ground terminal.	41	5G	O	FL tube grid output.
10	AVSS		Ground terminal.	42	4G	O	FL tube grid output.
11	TEST		Test terminal	43	3G	O	FL tube grid output.
12	X1		Not used.(Connect the power supply 5V)	44	2G	O	FL tube grid output.
13	X2		Not used.(Open)	45	1G	O	FL tube grid output.
14	VSS		Ground terminal.	46	NC	O	Not used.(Open)
15	OSC1		Connect the 8 MHz ceramic resonator.	47	NC	O	Not used.(Open)
16	OSC2		Connect the 8 MHz ceramic resonator.	48	STBY	I	STAND-BY indicator output
17	RSTN	I	Reset terminal. H when power turns on.	49	NC		Not used.(Open)
18	REMO	I	Remote control sensor input	50	OUTSW	I	Tray open operation completion signal.
19	SCOR	I	Synchronizing signal detection of sub code frame.	51	INSW	I	Tray close operation completion signal.
20	POW	O	Power supply control output. On at H.	52	OPEN	O	Tray open/close control output.
21	NRSCO	O	NRSC output.	53	CLOSE	O	Tray open/close control output.
22	NRSCI	I	NRSC input.	54	LSR	O	Laser control output. On at low level.
23	P1	O	FL tube segment output.	55	DFCT	O	Defect control output terminal.
24	P2	O	FL tube segment output.	56	VCC	O	Power supply terminal. 5V
25	P3	O	FL tube segment output.	57	MD2	O	Inhibiting signal of digital output of signal processor.
26	P4	O	FL tube segment output.	58	CLK	O	Serial transfer clock of command to signal processor IC.
27	P5	O	FL tube segment output.	59	XLT	O	Serial transfer latch to signal processor IC.
28	P6	O	FL tube segment output.	60	DATA	O	Serial data output of command to signal processor IC.
29	P7	O	FL tube segment output.	61	SQCK	O	Serial transfer clock of sub code Q to signal processor IC.
30	P8	O	FL tube segment output.	62	SQSO	I	Serial data input of sub code Q from signal processor IC.
31	P9	O	FL tube segment output.	63	DMUT	O	Muting control signal.Active H.
32	P10	O	FL tube segment output.	64	AMUT	O	Muting control signal.Active H.

IC BLOCK DIAGRAMS AND DESCRIPTIONS

CXD2500AQ (Digital Signal Processor)

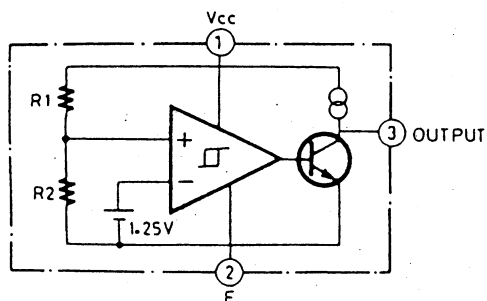


NO.	SYMBOL	I/O	DESCRIPTION	
1	FOK	I	Focus Ok input	
2	FSW	O	Output filter changeover output for spindle motor	
3	MON	O	Spindle motor control output	
4	MDP	O	Spindle motor servo control	
5	MDS	O	Spindle motor servo control	
6	LOCK	O	H when GFS is the high level	
7	NC			
8	VCOO	O	Oscillation circuit output for analog EFM PLL.	
9	VCOI	I	Oscillation circuit input for analog EFM PLL. (8.6436MHz)	
10	TEST	I	Test terminal	
11	PDO	O	Charge pump output analog EFM PLL	
12	V _{ss}		Ground terminal	
13-15	NC			
16	VPCO	O	PLL charge pump output for variable pitch	
17	VCKI	I	Clock input for variable pitch from VCO (16.934MHz)	
18	FILO	O	Filter output for master PLL.	
19	FILI	I	Filter input for master PLL.	
20	PCO	O	Charge pump output of master PLL	
21	AV _{ss}		Analog ground	
22	CLTV	I	VCO control voltage input for master	
23	AVDD		Analog section power supply (+5V)	
24	RF	I	EFM signal input	
25	BIAS	I	Asymmetry circuit constant current input	
26	ASYI	I	Asymmetry comparator voltage input	
27	ASYO	O	EFM full swing output	
28	ASYE	I	Asymmetry control circuit	
29	NC			
30	PSSL	O	Audio data output mode changeover input Serial data at L and parallel data at H.	
31	WDCK	I	D/A interface for 48 bits slot. Word clock $f=2F_s$.	
32	LRCK	I	D/A interface for 48 bits slot. LR clock $f=F_s$.	
33	VDD		Power supply terminal (+5V)	
34-49			Data output terminals	
		PSSL=1	PSSL=0	
34	DA16	O	DA16	Serial data of 48 bits slot
35	DA15	O	DA15	Bit clock of 48 bits slot
36	DA14	O	DA14	Serial data of 64 bits slot
37	DA13	O	DA13	Bit clock of 68 bits slot
38	DA12	O	DA12	LR clock of 68 bits slot
39	DA11	O	DA11	GTOP output
40	DA10	O	DA10	XUGF output
41	DA09	O	DA09	XPLCK output

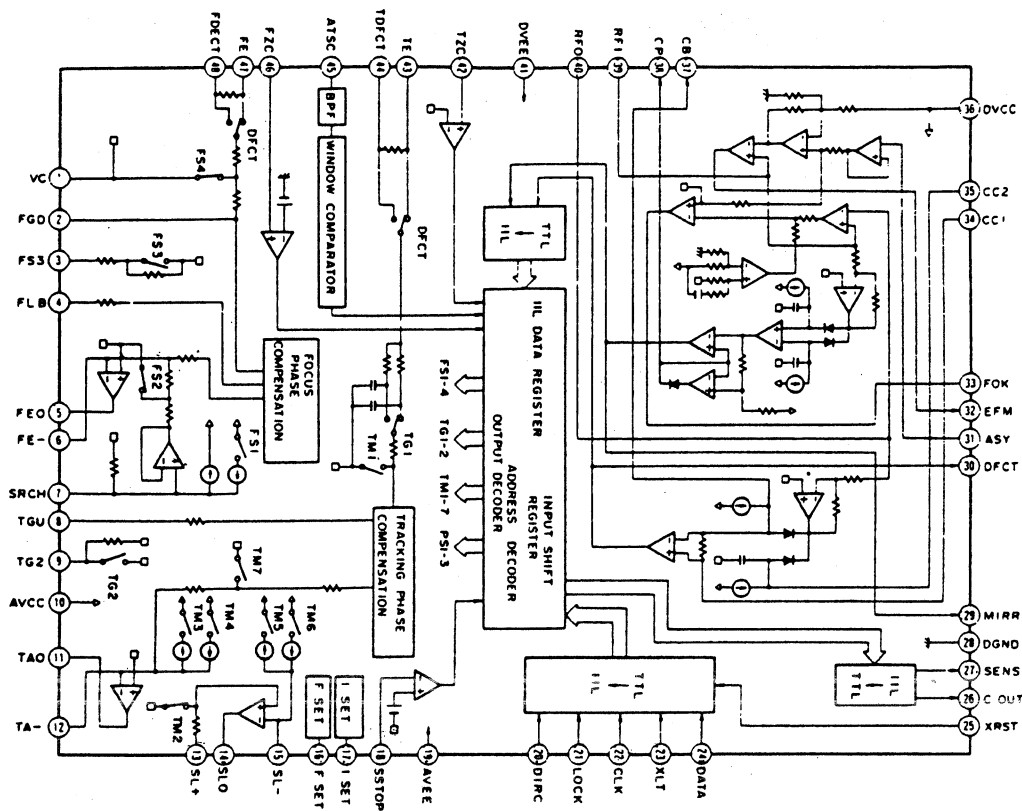
NO.	SYMBOL	I/O	DESCRIPTION	
42	DA08	O	DA08	GFS output
43	DA07	O	DA07	RFCK output
44	DA06	O	DA06	C2PO output
45	DA05	O	DA05	XRAOF output
46	DA04	O	DA04	MNT 3 output
47	DA03	O	DA03	MNT 2 output
48	DA02	O	DA02	MNT 1 output
49	DA01	O	DA01	MNT 0 output
50	APTR	O	Control output for aperture correction. H when R ch.	
51	APTL	O	Control output for aperture correction. H when L ch.	
52	Vss		Ground terminal	
53	XTAI	I	Crystal oscillation circuit input of 16.9344MHz or 33.8688MHz input.	
54	XTAO	O	Crystal oscillation circuit output of 16.9344MHz.	
55	XTSL	I	Crystal selection input terminal. L when 16.9344MHz H when 33.8688MHz.	
56	FSTT	O	2/3 divided output of pins 53 and 54.	
57	C4M	O	4.2336 MHz output	
58	C16M	O	16.9344 MHz output	
59	MD2	I	Digital output control input. On at high level.	
60	DOUT	O	Digital output	
61	EMPH	O	Emphasis control output. Active high.	
62	WFCK	O	Write frame clock output	
63	SCOR	O	Sub-code detection output. H when is detected SO or SI.	
64	SBSO	O	Serial output of sub-code (P~W)	
65	EXCK	I	Clock input for read out SQSO.	
66	SQSO	O	Sub Q 80 bits, PCM peak, and level data 16 bits output.	
67	SQCK	I	Clock input for read out SQSO	
68	MUTE	O	Muting control output. Active H.	
69	SENS		Sens output. Output to the microprocessor	
70	XRST	I	System reset. Reset at the low level.	
71	DATA	I	Serial data input from the microprocessor.	
72	XLTA	I	Latch input from the microprocessor. Latch the serial data at the trailing.	
73	VDD		Power supply treminal	
74	CLOCK	I	Serial data transfer clock input from microprocessor	
75	SEIN	I	Sens input from SSP	
76	CNCI	I	Track jump numbers count signal input	
77	DATO	O	Serial data output to SSP	
78	XLTO	O	Serial data latch output to SSP. Latch at trailing.	
79	CLKO	O	Serial data transfer clock output to SSP.	
80	MIRR	I	Mirror signal input	

Note: SSP: 1C101 CXA1372Q

M51943ASL (Rest IC)

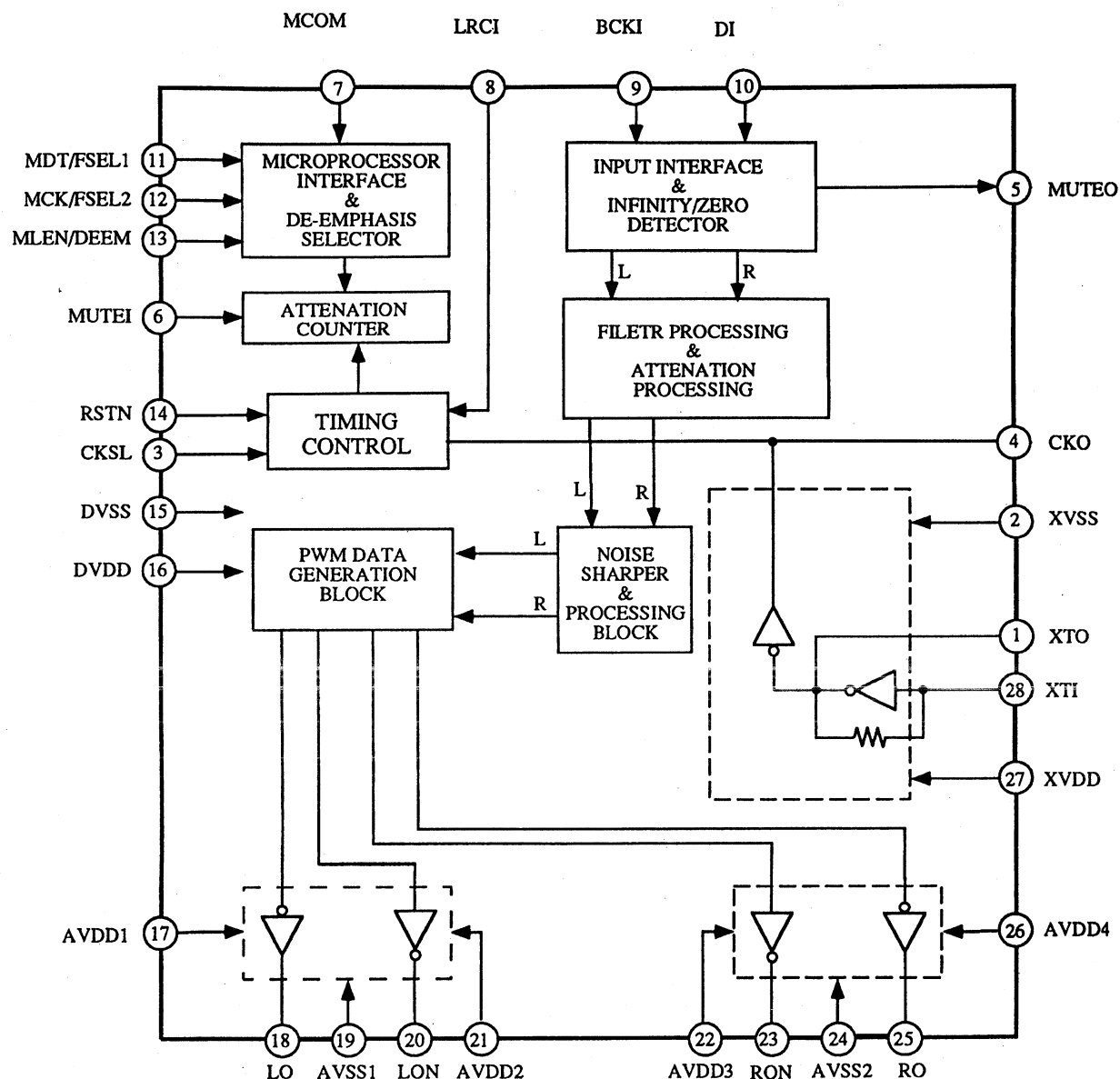


CXA1372Q (Servo Signal Processor)



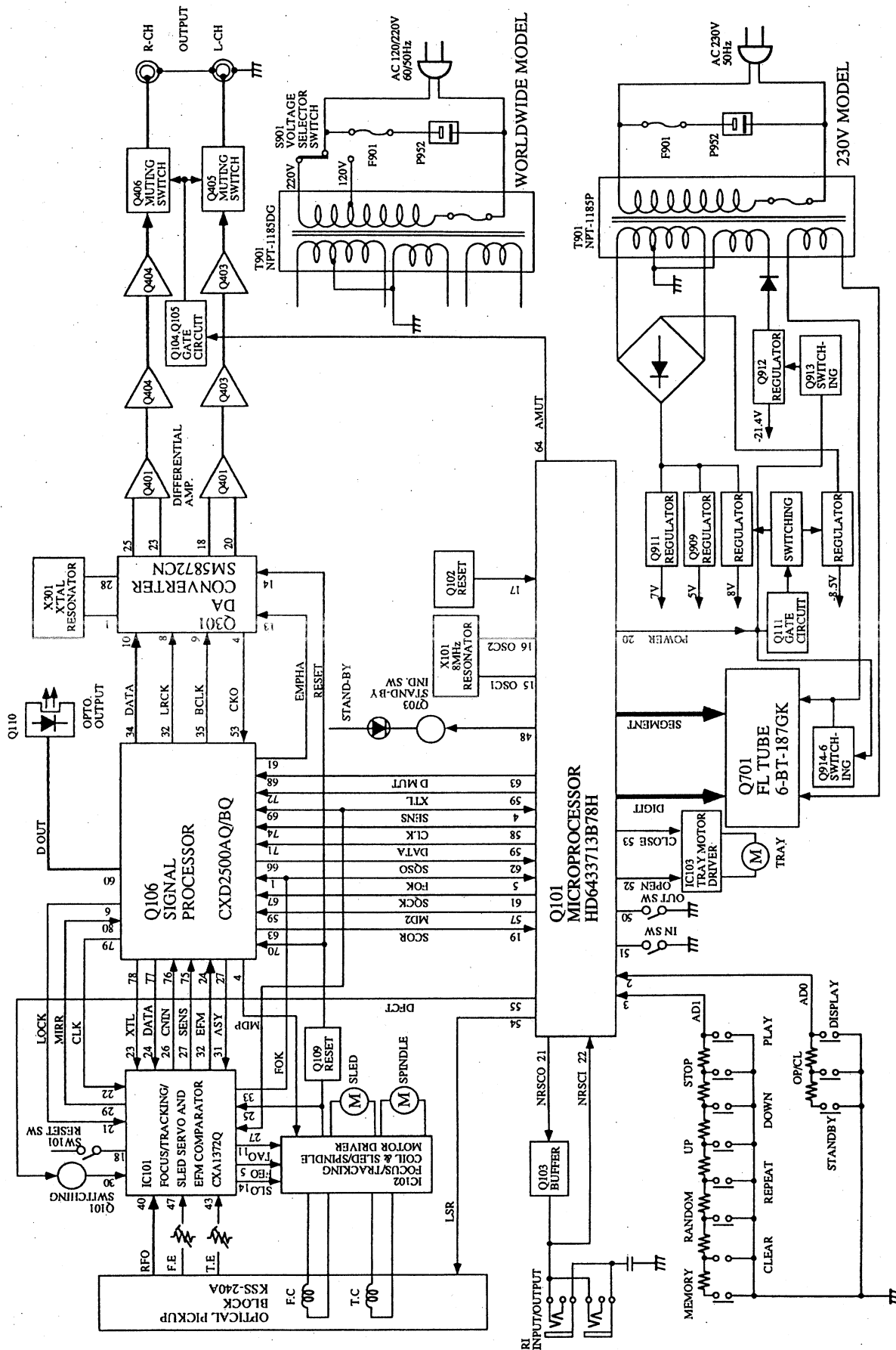
PIN NO.	SYMBOL	I/O	DESCRIPTION	PIN NO.	SYMBOL	I/O	DESCRIPTION
1	VC	I	Mid-point voltage input terminal.	23	XLT	I	Latch input terminal for microprocessor.
2	FGD	I	Connect the capacitor between FS3 and this pin when the high frequency gain focus servo is dropped.	24	DATA	I	Serial data input terminal for microprocessor.
3	FS3	I	Focus servo high frequency gain changeover input terminal.	25	XRST	I	Reset input terminal.Active low.
4	FLB	I	Input terminal for the low frequency boost of focus servo.	26	C.OUT	O	Signal output to count the track numbers.
5	FEO	O	Focus drive output terminal.	27	SENS	O	This terminal outputs FZC and SSTOP to according command from the microprocessor.
6	FE-	I	Inversion input terminal of focus amplifier.	29	MIRR	O	Mirror comparator output terminal.
7	SRCH	I	Time constant terminal to make the focus search waveform.	30	DFCT	O	Defect comparator output terminal.
8	TGU	I	Tracking high frequency changeover input terminal.	31	ASY	I	Auto asymmetry control input terminal.
11	TAO	O	Tracking drive output terminal.	32	EFM	O	EFM comparator output terminal.
12	TA-	I	Inversion input terminal of tracking amplifier.	33	FOK	O	Focus OK comparator output terminal.
13	SL+	I	No-inversion input terminal of sled amplifier.	34	CC1	O	Defect bottom hold output terminal.
14	SLO	O	Sled drive output terminal.	35	CC2	I	Defect bottom hold input terminal from CC1.
15	SL-	I	Inversion input terminal of sled amplifier.	37	CB	I	Defect bottom hold capacitor connection terminal.
16	FSET	I	Peak setting input of phase correction of focus tracking.	38	CP	I	Mirror hold capacitor connection terminal.
17	ISET	I	This terminal is flowed the current so that the focus search,tracking jump,and sled kick height is decided.	39	RFI	I	RF summing amplifier input terminal.
18	SSTOP	I	Inner switch selection input terminal.	40	RFO	O	RF summing amplifier output terminal.
20	DIRC	I	This terminal is used when track jump.	42	TZC	I	Tracking zero-cross comparator input terminal.
21	LOCK	I	The sled runaway prevention circuit operates at the low level.	43	TE	I	Tracking error input terminal.
22	CLK	I	Serial data transfer clock input from microprocessor.	44	TDFCT	I	Capacitor connection terminal for time constant when defect.
				45	ATSC	I	Window comparator input terminal for ATSC detection.
				46	FZC	I	Focus zero-cross comparator input terminal.
				47	FE	I	Focus error input terminal.
				48	FDFCT	I	Capacitor connection terminal for time constant when defect.

SM5872CN (D/A Converter)



Pin No.	Terminal	I/O	Function	Pin No.	Terminal	I/O	Function
1	XTO	O	Resonator section	28	XTI	I	Resonator section
2	XVSS		Ground for resonator system	27	XVDD		5V for resonator system
3	CKSL	I		26	AVDD4		5V for analog section
4	CKO	O	Output clock of resonator section: 384fs	25	RO	O	R ch PWM output (+)
5	MUTE0	O	Infinity zero detector output	24	AVSS2		Ground for analog section
6	MUTEI	I	Muting output	23	RON	O	R ch PWM output (-)
7	MCOM	I	Interface switching control	22	AVDD3		5V for analog section
8	LRCI	I	Sampling rate clock of input data: H=L ch, L=R ch	21	AVDD2		5V for analog section
9	BCKI	I	Bit clock of input data	20	LON	O	L ch PWM output (+)
10	DI	I	Input data	19	AVSS1		Ground for analog section
11	FSEL1	I	Sampling frequency=44.1 kHz	18	LO	O	L ch PWM output (-)
12	FSEL2	I	When FSEL1, FSEL2, and MCOML are the low level.	17	AVDD1		5V for analog section
13	DEEM	I	De-emphasis control input	16	DVDD		5V for digital section
14	RSTN		System reset: L=Reset	15	DVSS		Ground for digital section

BLOCK DIAGRAM



ADJUSTMENT PROCEDURES

It is not necessary to perform the adjustment of optical pickup.
This confirmation should be made when replacing the optical pickup.

- 1). Connect the oscilloscope to test points RF and VC.
- Oscilloscope
DC range
-
- RF/Servo pc board
- TP(RF)
- TP(VC)
- 2). Turn the power switch on.
- 3). Load the test disc YEDS-18 on the tray and press the play button.
- 4). Confirm that the waveform on the oscilloscope is optimum eye pattern and optimum level as shown photo 1.
- Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.

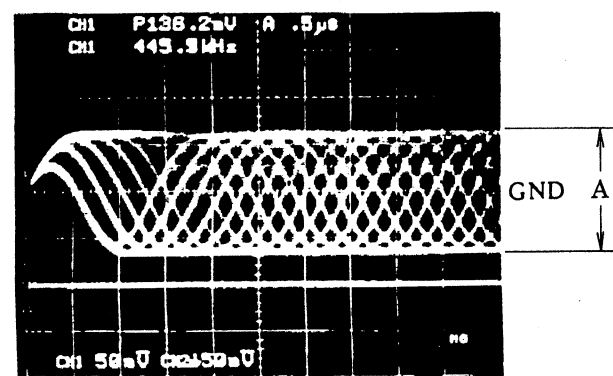


Photo 1

$A = 1.2 \pm 0.3 V_{p-p}$

REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

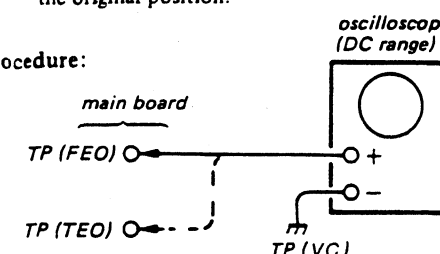
Symptoms \ Gain	Focus	Tracking
● The time until music starts becomes longer for STOP → ▶PLAY or automatic selection (⏮ ⏭ buttons pressed. (Normally takes about 2 seconds.)	low	low or high
● Music does not start and disc continues to rotate for STOP → ▶PLAY or automatic selection (⏮ ⏭ buttons pressed.)	—	low
● Sound is interrupted during PLAY. Or time counter display stops progressing.	—	low
● More poise during 2-axis device operation.	high	high

The following is a simple adjustment method

- Simple Adjustment -

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

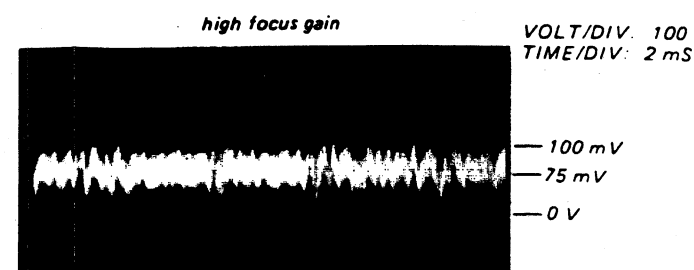
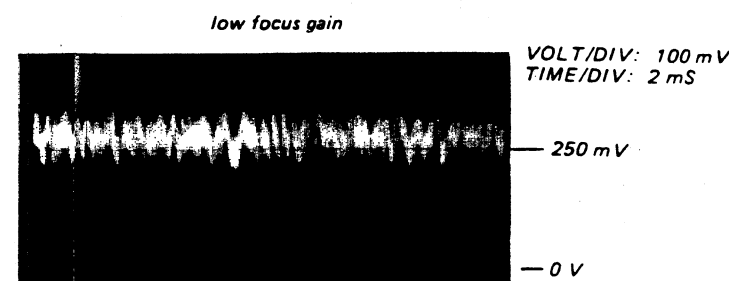
Procedure:



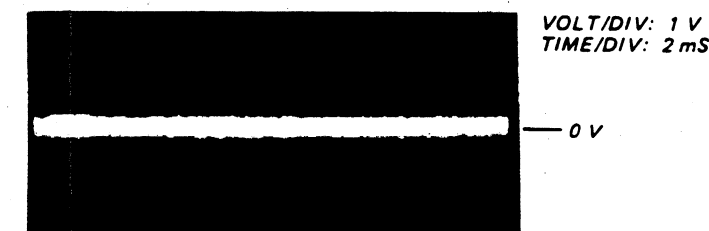
1. Keep the set horizontal.
 (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.)
2. Insert disc (YEDS-18) and press $\triangleright$ PLAY button.
3. Connect oscilloscope to RF/Servo board TP (FE).
4. Adjust RV102 so that the waveform is as shown in the figure below. (focus gain adjustment)



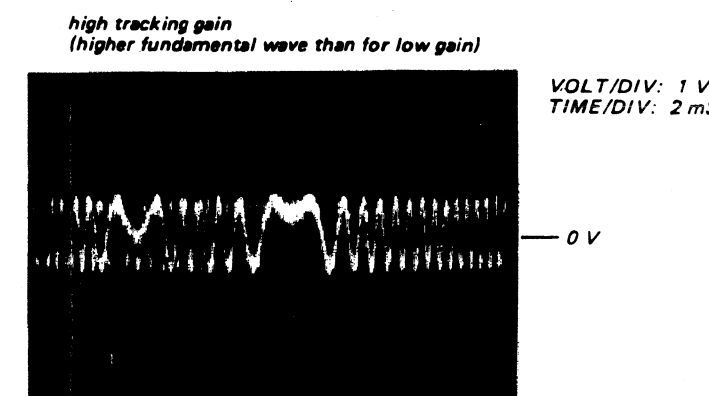
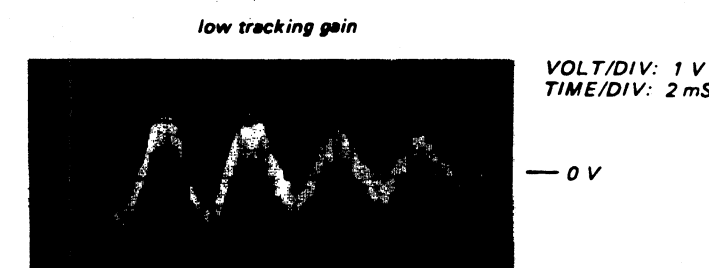
- Incoherent Examples (DC level changes more than on adjusted waveform)



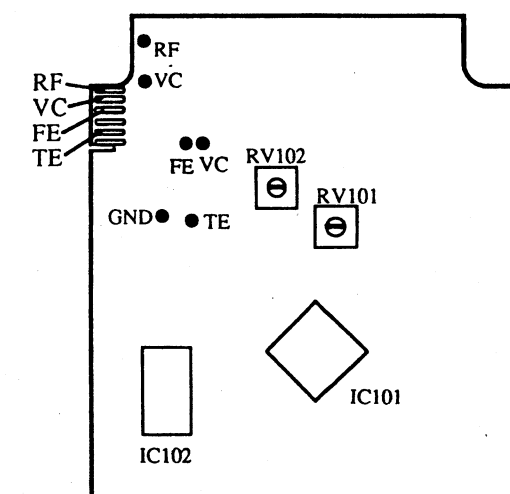
5. Connect oscilloscope to RF/ Servo board TP (TE).
6. Adjust RV101 so that the waveform is as shown in the figure below. (tracking gain adjustment)



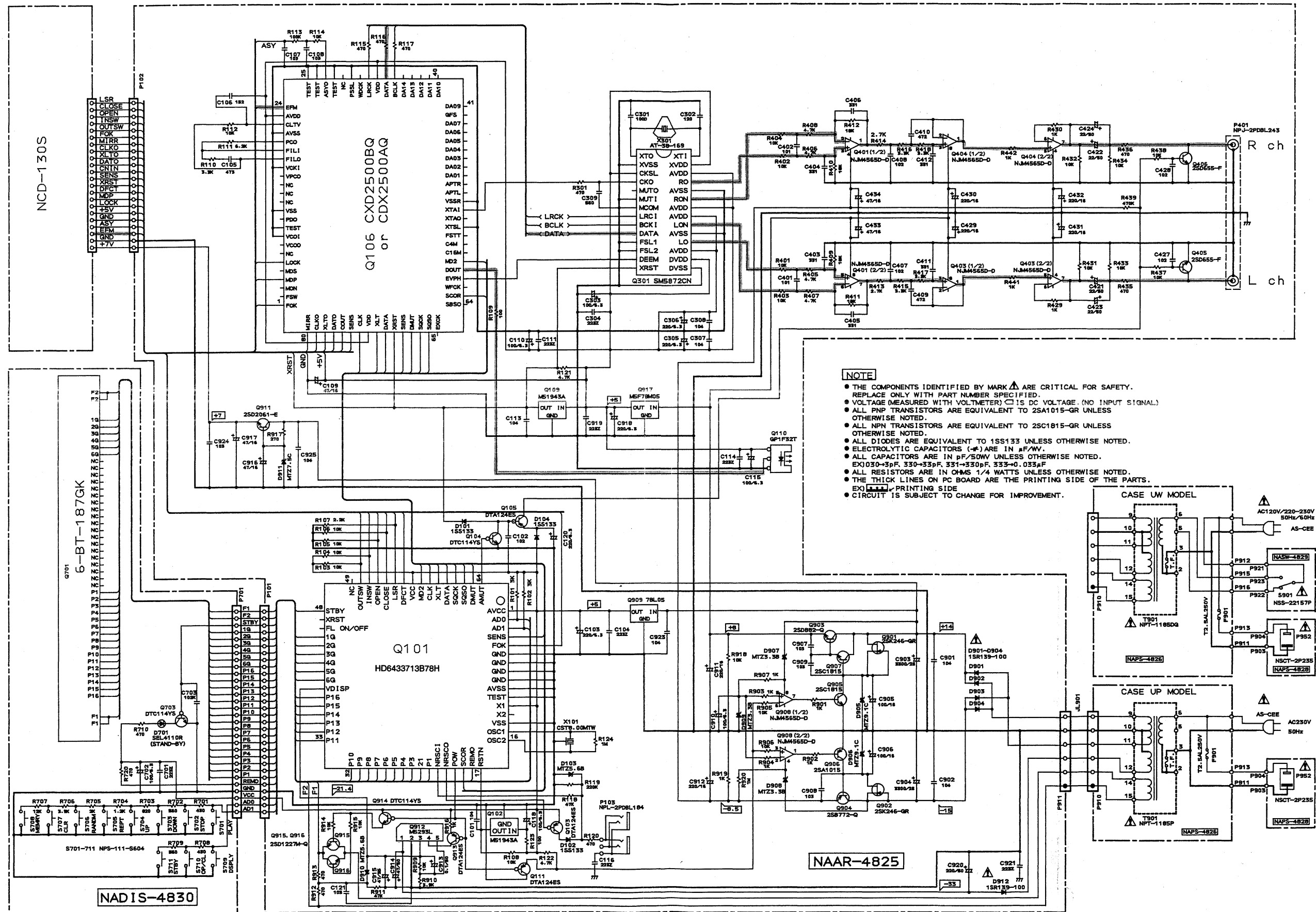
- **Incorrect Examples (fundamental wave appears)**



Adjustment Location: RF/Servo board



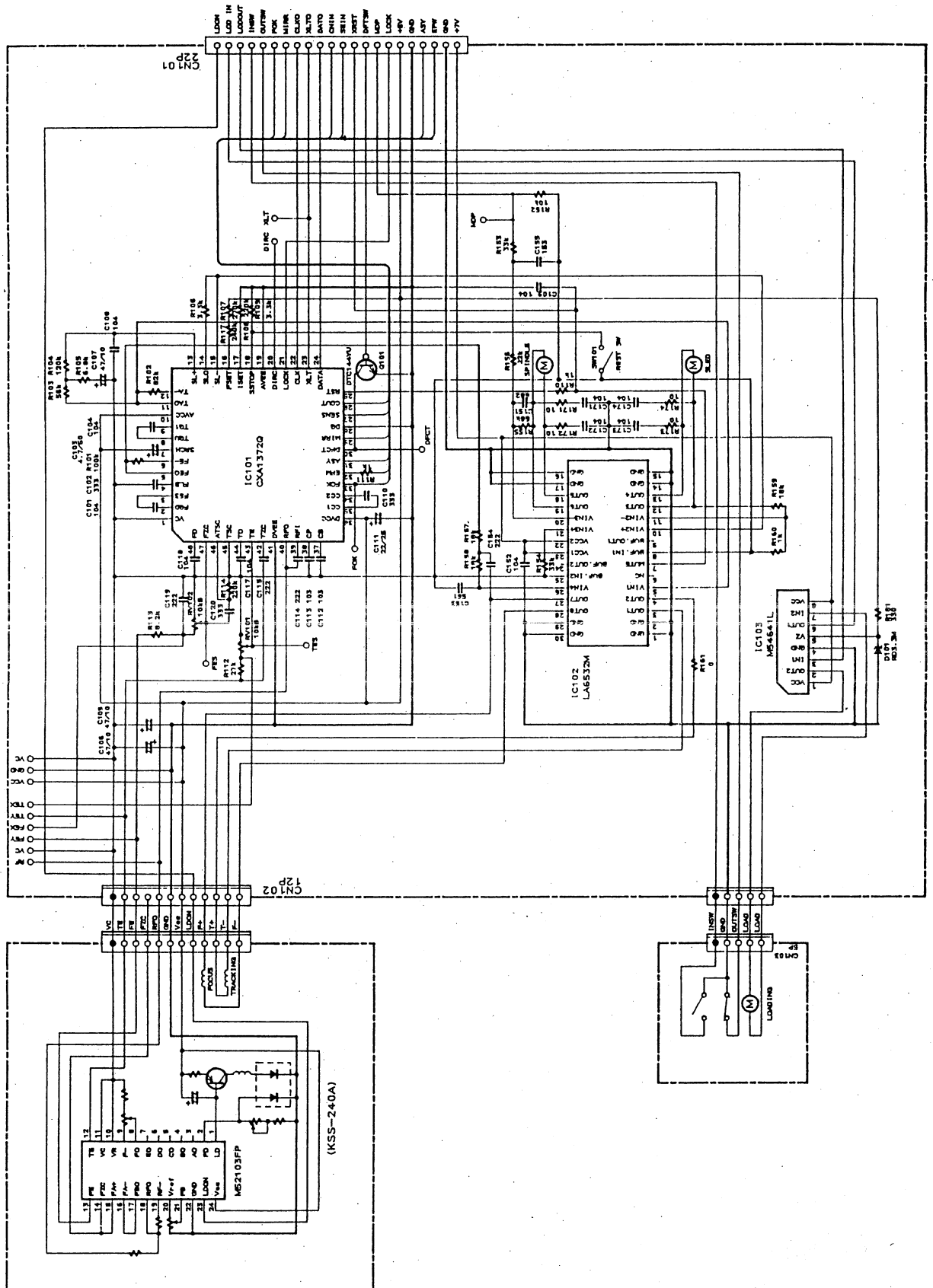
SCHEMATIC DIAGRAM



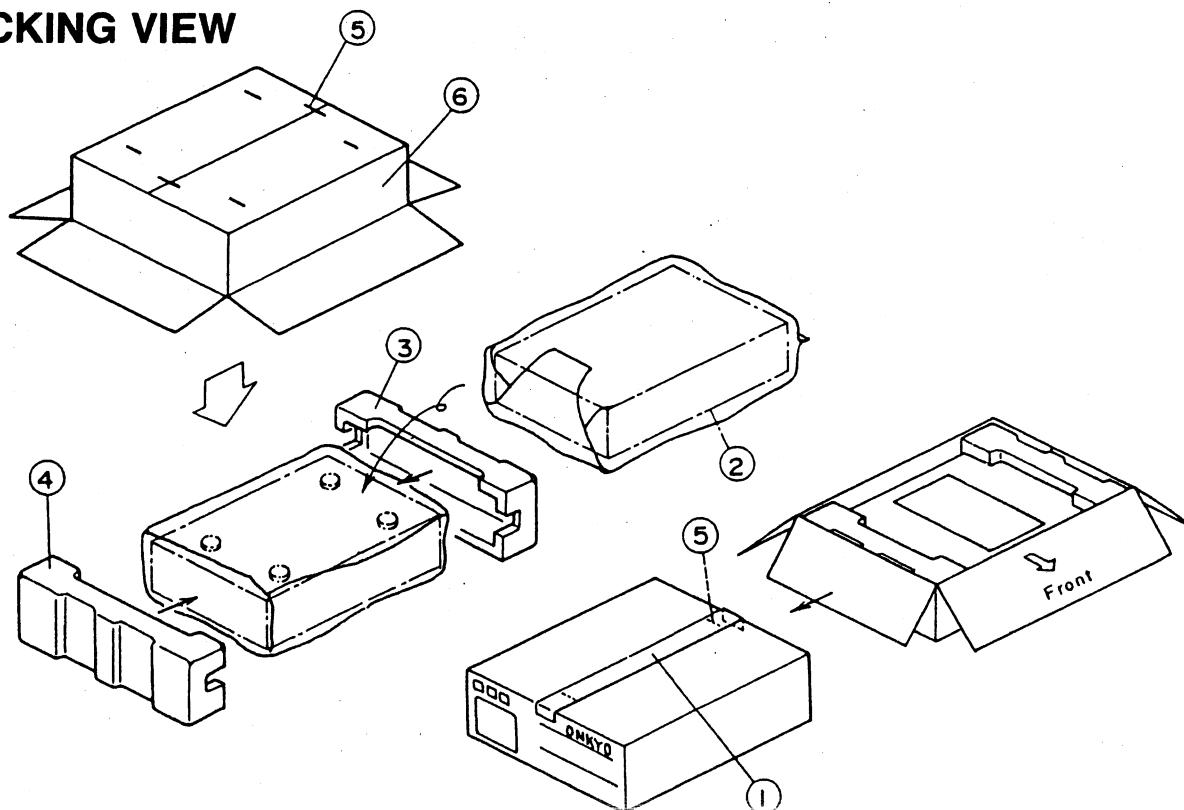
- 21 -

- 22 -

SCHEMATIC DIAGRAM MECHANISM BLOCK



PACKING VIEW



REF.NO.	PART NO.	DESCRIPTION
1	29110071	PP TAPE
2	29100037-1Y	650x500,POLY BAG
3	29091641B	PAD(R)
4	29091640B	PAD(L)
5	282321	STAPLE
6	29053008A	CARTON <S>
	29053009A	CARTON
	29360404	SN SHEET
	Accessory bag ass'y	
	29100097-1AY	320x250, POLY BAG
	2010098A	PIN CORD AS
	2010200	35MINI PLUG, CORD AS
	29342306	E(C-721), INSTRUCTION MANUAL
	29342307	U6(C-721), INSTRUCTION MANUAL <P>
	29342308	U3(C-721), INSTRUCTION MANUAL <W,T>
	25055040	CV-K-2, CONVERSION PLUG <W>

NOTE: <S> Silver model only
 Black model only
 <W> Worldwide model only
 <P> European model only
 <T> Asian model only

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